

REMARKS/ARGUMENTS

Claims 1-10 and 17-24 are pending in this application. Claims 1, 10 and 17 have been amended herein. In view of this Amendment reexamination and reconsideration are respectfully requested.

The Examiner rejected claims 1-10 and 17-24 under 35 U.S.C. § 103(a) as being obvious over Rahim (6,362,525) in view of Hino (6,157,084). Applicant traverses the Examiner's finding of obviousness and believes the cited art does not teach or suggest the claimed invention as amended. Applicant has amended the claims to include the definition of thin-film in the specification, which recited the materials and thickness now included in the independent claims.

Rahim shows a chip mounted to a substrate. The substrate in Rahim has two insulation layers 22 inclosing a conductive layer 16. The chip bonds to pads on the top of the second insulation layer. Further, the insulation layers of the substrate are not described as being thin film interposer layers as described below.

Similarly, Hino shows a conductive layer imbedded in between layers of insulation layers 6. Solder connections are made from the conductive layer to the chip and to the bottom of the packaged device. The insulative layer 6 is formed from a resin (col. 4, line 62) layer with the conductor imbedded within.


In contrast, the present invention claims a structure not shown in any of the cited art. The thin-film interposer layer 101 has an adhesion layer 102 with a metal foil layer 103. There are no other layers. The chip attaches to the foil layer associated with the surface of the interposer layer, not to another layer as shown in Rahim or using a solder

via through the insulation layer as shown in Hino. In the present application, thin-film interposer layer is not a ceramic thin-film as the term is sometimes used in the semiconductor arts. As described in the specification, page 10, line 8, the interposer is a thin layer of film. The conductive layer is adhesively attached to the film layer. The interposer is not integrally formed with the metal foil layer as shown in Hino.

The claimed invention has a film interposer layer with a conductive layer integral with the surface of the film interposer layer. The chip is attached to this conductive layer. The cited art does not show this combination. In the cited art, the conductive layer is not on the surface of the single insulation layer. The claimed invention is a simplified and less costly approach to flip chip mounting on a flexible film substrate.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,
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